EGI Energy & Geoscience Institute

... the science to find energy

Since 1972

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Thang Quoc Tran, PhD

Affiliate Scientist – Chemical Engineering

Dr. Thang Tran earned a BS, MSc, and PhD in Chemical Engineering from the University of Utah. After receiving his PhD, Dr. Tran joined the Department of Chemical Engineering at the University of Utah as a research associate. He is also an Affiliate Scientist at the Energy & Geoscience Institute and has been associated with EGI since his work as a graduate student.

His previous research work has focused on the relative permeability of nanoporous hydrocarbon and geothermal reservoirs. He has been very involved with other projects at macro- and nano-length scales, including test projects supported by EGI corporate associate members.

Some of Dr. Tran's current research for the Energy Frontier Research Center (EFRC) at the University of Utah includes evaluating chemomechanical sensitivity of synthesized architected materials using AFM, nanoindentation, and SEM. Other EFRC involvement includes studying the flow and transport of liquid/gas in these synthesized architected materials.

Dr. Tran's prior experience also includes worked with Emisense for 2.5 years where he conducted research on the fabrication and testing of NOx sensors for automobiles.

- Transport properties of representative samples, ranging from sandstone and shale to granite.
- Multi-liquid and multi-phase permeability measurements.
- High pressure and temperature experimental lab-scale, liquid/gas flow testing.
- Enhanced oil recovery methods using CO_2 and methane sequestration
- Nano-scale material mapping using atomic force microscopy and nano-indentation methods

Professional and Research Highlights

Flow in Nanoporous Rocks

Dr. Tran conducted a significant amount of work on detailed characterization of shale samples from various plays including the Eagle Ford, Niobrara, and Permian Basin for EGI projects including Flow in Nanoporous Rocks. The project entailed measurement of absolute permeability and relative permeability (gas-oil and water-oil fluid pairs) on the core rock samples.

Enhanced Geothermal System (EGS)

As part of the FORGE Utah project, Dr. Tran has performed a significant number of triaxial tests and permeability tests at different depths and integrated all experimental data to help understand the mechanical properties and flow capability. This will contribute to correcting logging predictions with actual measurements made by in situ testing.

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